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ABSTRACT

Insights into successful collaborative writing interactions were derived from an analysis of the discourse of three ninth-grade coauthoring triads (groups of three students)--a model group, a typical group, and a problem group. The writing task was an argumentative essay. Students received instruction in collaborative writing through teacher modeling of the process. Student discussions were audiotaped, and data were collected through a questionnaire completed by the entire class of 24 students and interviews with 22 of the 24 class members. Three characteristics differentiated the model group from the typical and problem groups: (1) the amount and kinds of engagement; (2) the level of cognitive conflict; and (3) the kinds of social interactions. Compared to the other groups, the model group talked together more and were more engaged. They talked least about task representation, and seemed to have a tacit understanding of the task. They spent their energies planning and composing. The model group also had the highest levels of cognitive conflict. Understanding this successful collaboration can encourage the use of collaborative writing as an effective pedagogy for the teaching of writing. Six tables present study findings. A 65-item list of references is included. Appendix A is the student questionnaire, Appendix B is the interview form, and Appendix C contains the coding scheme. (SLD)

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Conflict and Engagement: Collaborative Writing in One Ninth-Grade Classroom

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ABSTRACT

Although collaborative writing has the potential to help students learn effective ways to write, we have little information on now these groups function the most productively. The purpose of this study is to give us insights into successful collaborative writing interactions. The discourse of three ninth-grade coauthoring triads--a model group, a typical group, and a problem group--was analyzed to answer the question, "What factors in their interactions affect the success of collaborative writing groups in one ninth-grade classroom?" Three characteristics differentiate the model group from the typical and problem groups: a) the amount and kinds of engagement, b) the level of cognitive conflict, and c) the kinds of social interactions. The model group talked to each other much more and were more engaged with each others' words and ideas than the other groups. In terms of the writing process, the model group talked the least of all groups about task representation, their understanding of the task apparently tacit. Instead, they spent their energies planning and composing. The model group also had the highest levels of cognitive conflict and engaged with each other not only productively but also positively. By understanding better the processes of one successful collaborative writing situation, we can move beyond the theoretical reasons for its potential toward its use in practice as an effective pedagogy for the teaching of writing.

Recently there has been increased interest in collaborative writing for many possible reasons. Years of research claim the virtues of cooperative learning, the rising force of social constructionist theory leads naturally to valorizing multiple voices, and the process approach to teaching writing encourages the use of peer writing groups in which students sound out their writing ideas in the early stages of composing as well as rely on each other for editing. However, not many writing instructors are encouraging *coauthoring* as a means of engaging students with each others' ideas and writing processes, perhaps because they are not sure what constitutes effective coauthoring. In fact, we know little about peer interactions in coauthoring although there have been calls for research in this area (DiPardo & Freedman, 1988; Ede & Lunsford, 1983, 1990; Freedman, 1987; Hilgers, 1987). The purpose of this study is to give us insights into successful collaborative writing interactions. Specifically, this study describes the discourse of three ninth-grade coauthoring triads--a model group, a typical group, and a problem group--to answer the question, "What factors in their interactions affect the success of collaborative writing groups in one ninth-grade classroom?"

The term "collaborative writing" itself is problematic. While it appears frequently in composition literature, it is used to mean a variety of things from cooperative planning to writing separate sections of a text to coauthoring. I use it here interchangeably with coauthoring. Collaborative writing implies meaningful interaction and shared decision-making and responsibility between group members in the writing of a shared document (Morgan, Allen, Moore, Atkinson, & Snow, 1987). More specifically, I define

collaborative writing as "dialogic" (Bakhtin, 1981) which stresses the context of the writing situation and the relationship of the students as they interact. To view language dialogically is to understand each utterance as a part of a larger whole where all the possible meanings of a word interact, possibly conflict, and affect future meaning.

When Ede and Lunsford (1990) studied collaborative writing in the workplace, most of what they observed was "hierarchical" coauthoring in which writers divided up the work. Those who coauthored "dialogically" did not establish set roles and valued finding shared goals and blending voices. This blended, dialogic model of collaborative writing seems to hold the most promise for writing instruction (Fleming, 1988) because it makes thinking about writing external and explicit (Flower & Higgins, 1991; Higgins, Flower & Petraglia, 1992).

BACKGROUND IN THEORY AND RESEARCH

While there are composition theorists who believe in socially constructed knowledge and use the term "collaborative writing," most refer not to coauthoring, but to students helping each other at one or more stages of the writing process on individual papers. Clifford (1981) explains that the ultimate goal of using groups in writing classes is to allow students to see how writing can evolve from sketchy ideas to an edited product. Collaborative writing has the potential to do just that as students start out with one or more vague ideas and determine what should appear in a final text. Bruffee (1984) also gives a justification for collaborative writing although he does

not suggest coauthoring. He believes that students should be involved in conversation at as many points as possible in the writing process and that the aim of writing instruction is to engage students more deeply with what they write. However, students will not have the motivation to talk through others' writing at each stage of the process and at a fully engaged level unless, they, too, have a stake in the outcome. With a collaborative product that level of engagement is possible. These theorists and the field itself have not gone far enough in exploring the possibilities of collaborative writing.

Given its potential, there is only a small amount of published research on collaborative writing. Ede and Lunsford have written about collaborative writing and posit that only by *writing* together--not just brainstorming or editing--can students really learn from one another (1983; 1985). Their primary contribution has been to study collaborative writing in the professions (1985; 1990) where they found that the vast majority of professionals write together some of the time, a finding that corroborates the work of Faigley & Miller (1982). A few studies do take place in classroom settings. One study was done with college students (O'Donnell et al., 1985) and focused on written products rather than on interactions. The authors state that "a detailed protocol of the...interactions [would have been] desirable" (p. 313).

All the other published studies take place in elementary school settings. In an observational study Hilgers (1987) found children struggling for control of both the group and the text and suggests that children be taught cooperative skills before coauthoring. The three articles that examine the discourse of students writing together find that students have much to

gain from their interactions. Daiute (1986) finds collaborative writing a subtle form of learning in which students share their ideas about good writing and their composing strategies. A later study (Daiute & Dalton, 1988) found that coauthoring produces the social-cognitive dissonance that can lead to effective learning about writing, an experience with questioning one's own point of view, and better written products. Daiute and Dalton (in press) have recently found that young coauthors help each other in various ways while they write, and do so within what Vygotsky (1978) calls the "zone of proximal development," effectively functioning as "more capable peers." To my knowledge there have been no published studies of student interactions while coauthoring at the secondary level.

That there has been so little research on collaborative writing is surprising since both theoretical traditions which inform it--constructivism and social constructionism--offer strong support. Although these theoretical positions are sometimes seen as oppositional, both are important to the study of collaborative writing. Theory and research in both communities point to thought processes actually originating in social interaction (Palinscar, Stevens, & Gavelek, 1989; Vygotsky, 1978). Students benefit by internalizing each others' cognitive processes, arrived at by communicating socially (Damon, 1984). Neither view by itself provides an adequate picture of the writing act (Rubin, 1988).

Within constructivism the literature on cognition is important background for the study of collaborative writing because coauthoring's potential is based to a large extent on the assumption that collaborative writing allows students to observe alternative cognitive processes and

strategies unfold on a shared topic (Daiute, 1986; Dale, 1992; O'Donnell, et al., 1985) and allows for productive cognitive conflict (Daiute & Dalton, 1988). Because collaborative writing prompts students to write more recursively (Dale, 1992), and in that sense more like accomplished writers, cognitively based research on expert/novice writing processes is germane. Much research testifies to the fact that novice writers do not plan enough at any point in the writing process (Bereiter & Scardamalia, 1982; Bridwell, 1980; Emig, 1971; Flower & Hayes, 1981a; Perl, 1979; Pianko, 1979). More experienced writers, on the other hand, have quite a complex goal network about both content and process (Bereiter & Scardamalia, 1987; Flower & Hayes, 1981a; 1981b; Higgins, Flower & Petraglia, 1992; Rubin, 1988). Cognitive conflict is another vital component of successful collaboration (Mugny & Doise, 1978; Perret-Clermont, 1980) because through it students in groups restructure their thoughts (Johnson & Johnson, 1979; Webb, 1982) and internalize new ideas and attitudes, thereby making learning an active proces: (Myers & Lamm, 1976).

The study of collaborative writing is also grounded in social constructionist theory which emphasizes student discourse as a means of learning. For social constructionists writing is the manifestation of internalized social interactions (Bruffee, 1984). Peer group talk about writing takes advantage of the Vygotskian premise that speaking and writing are fundamentally social acts (1986) and that by collaborating on common text aloud, students can learn from each other. That learning is based on each coauthor working within his or her "zone of proximal development," an area in which a child can accomplish with adult guidance or the help of a more capable

peer what the child could not accomplish alone (Vygotsky, 1978). Which student functions as the most capable peer in collaborative writing groups can be flexible since there are so many points on which to be expert (Cazden, 1986, 1988; Daiute & Dalton, in press; Freedman, 1992). The very process of finding out what they are "expert" on in itself aids students' cognitive development (Wertsch & Stone, 1985). There is a good chance one peer is just slightly ahead of the others on some aspect of thinking about writing or about the structure or mechanics of writing itself. There is also a chance that students can help each other with weaknesses, having a clearer sense than their teacher of what has been difficult or frustrating in the assignment (Collins, Brown, & Newman, 1989; DiPardo & Freedman, 1987).

Like Vygotsky, Bakhtin (1981) offers important support for collaborative writing. What Bakhtin adds is an emphasis on struggle and voice; he invites us to see language as fully interactional, as arising from our various cultural contexts. His work supports coauthoring because it provides a rationale for interaction during the writing process and offers a social explanation of the value of conflict toward language growth. Since our thoughts are as dialogic as external speech (Wertsch & Stone, 1985), influenced by our cultural contexts and all of our language associations, coauthoring brings voice to thought that is dialogic to begin with. Collaborative writing externalizes the divergent voices of text-in-process. This can help to create the productive cognitive conflict that leads to growth in language. The interaction and conflict of which Bakhtin writes are audible as students negotiate their way through co-composing text and visible through tag codes used to analyze the coauthoring transcripts.

Collaborative Writing

There is strong support both in theory and research for looking at the discourse of collaborative writing groups, but research to date has offered "no information about the cognitive and social capacities needed to interact supportively in classroom settings..." (DiPardo & Freedman, 1988, p. 131). In particular, there has been no research which examined peer interactions while coauthoring in secondary settings. By asking, "What factors affect the success of collaborative writing groups in one ninth-grade classroom," this study may fill in some of the gaps of our knowledge about successful interaction patterns in coauthoring groups. The elements of coauthoring examined for each of three groups include a) the amount and kinds of interaction, b) the amount of cognitive conflict, and c) the kinds of social interactions that took place.

METHOD

Site and Participants

This nine week study was done in collaboration with a teacher, Mavis, in one ninth-grade classroom in the fall of 1991. Although Mavis was interested in collaborative activities, she had never before had students coauthor. She welcomed an active involvement in the research process because she wanted to learn about collaborative writing in order to incorporate it into her classes. The study took place at a racially and socio-economically diverse high school in a medium-sized city in the Midwest. The school accommodates its diverse population in part by tracking students in required subjects such as English. The class in this study was ninth-grade English Academically Motivated (ACAMO)

which is the second "highest" track of four ninth-grade tracks. The "Talented and Gifted" track is "higher," but essentially, ACAMO is a college preparatory track. While the title of the class makes these twenty-four students sound privileged, that was far from the truth, nor were they all motivated to do well in school although the course title suggests that. Two of these twenty-four ninth-graders in the class dropped out of the regular school program after the first quarter because of truancy.

Forming Groups

Eight collaborative writing triads, maintained over the course of the first quarter for all collaborative writing, were formed early in the school year. The primary factors in establishing heterogeneous groups were gender, race, verbal ability/leadership, and what we knew of their writing ability based on two brief assignments. The point of forming groups so early was to bring together these new ninth-grade students, most of whom did not know each other at the beginning of the school year, before they formed strong notions of who was "smart." That was important because the strongest and most counter-productive force in groups is the status characteristic of initially perceived academic ability (Cohen, 1986; Lockheed, 1985; Meeker & Weitzel-O'Neill, 1985; Tammivaara, 1982). I did not assign roles such as recorder or leader to the group members because I wanted to describe their discourse as it occurred naturally and observe how responsibility was negotiated and how each group explored its own implicit rules (Ede & Lunsford, 1990; Gere & Stevens, 1985; Jaques, 1984).

Selecting Three Target Groups

Of the eight coauthoring triads, three were targeted for more intense study: a model, typical, and problem group. The point was to represent a range of collaborative writing behaviors. The students in these three groups were not "good" or "bad," nor were they "good" or "bad" writers. Rather, they were groups of students who negotiated coauthoring in different ways and whose interactions seemed to shed some light on the nature of collaborative writing discourse. To choose three groups--one with a productive, one with a typical, and one with an unproductive style--was a decision made in designing the study. Each group was chosen on the basis of observation alone before the transcripts of their interactions had been transcribed, coded, or analyzed.

To decide which groups represented the descriptors "model," "typical," and "problem," Mavis and I did what all teachers do when they think about the work they have assigned: make decisions based on tacit assumptions. The difference is that we had to be explicit. Looking at the written product to determine success did not seem appropriate since the process of coauthoring and the nature of the discourse were central to this research. While as a researcher I was aware of cognitive conflict as a probable factor in successful coauthoring and had designed a coding scheme which would trace conflict, at this point and on the basis of observation alone, what we relied to make our choices was seeming involvement with coauthoring. Teacher instincts were at the basis of the choices we made. As we observed the coauthoring groups working over the course of several weeks, it seemed quite obvious to both of us which group seemed to be working together the best and which did not seem to be functioning well at all. Probably any teacher

observing the groups working would have made the same choices we did. One group just seemed to be really "humming," and we knew that without an explicit definition of "humming" in place. Our real task was to look hard at what we valued and define our tacit understanding of successful collaboration. The criteria we arrived at for successful coauthoring were a) degree of interaction, b) level of productive engagement with each other, and c) level of engagement with the task.

The model group was chosen because they seemed productively engaged. The students in that group--Rasheeta, Teresa, and Michael--seemed animated and involved with the assignment and each other. All three contributed significantly although not always equally. The typical group--Alison, Gia, and Joe--worked together fairly well but also had some problems; Joe was very quiet and Alison was an inconsistent leader. Other groups in the class had similar dynamics. Mark, Tom, and Sheri were chosen as the problem group because those three students interacted in a noticeably unproductive way. Mark dominated the interactions and the group seemed to bicker over inconsequential issues. Because the three groups were chosen to represent a range of success in collaborative writing interactions, it was possible to sort out factors that contributed to success for students who received the same full class instruction but had different small group experiences.

Instructional Context

Writing Task

The task for the study was an argumentative essay which asked the students to write about whether minors should have access to birth control

without parental consent. What we know about the factors that contribute to meaningful collaboration point to argumentation as an appropriate assignment. Small group tasks are more effective when there is some controversy, like expressing opposing opinions and backing them up (Kahn, Walter & Johannessen, 1984). Daiute and Dalton (1988) note that the talk of successful collaborative writing is marked by negotiation and cognitive conflict leading to suggesting alternatives. Since other studies of collaborative discourse see lack of conflict as problematic (Burnett, in press; Deering, 1991; Syverson, 1989), I wanted to create a context in which disagreement had a productive function. Argument can facilitate the best results in a collaborative group because it forces students to process and reformulate ideas necessary for the internalization of new ideas and attitudes, thereby making learning an active process (Myers & Lamm, 1976). Groups discussing argumentative topics often force each other to legitimize their arguments, "thereby elaborating, extending, and providing them with coherence" (Brown & Palinscar, 1989, p. 398).

Preparing Students to Write a Collaborative Argumentative Essay

Because both collaborative writing and argumentative writing were new activities for these students, they needed to be prepared for both. Their teacher had agreed to have the study take place in her class primarily to learn more about collaborative writing, an activity that sounded promising to her but about which she knew little. For that reason I taught some of the class sessions that led up to the final collaborative writing assignment. To prepare the students for collaboration, I discussed with the class the

rationale for collaborative writing and assigned two short collaborative writing activities, one a descriptive paragraph and the other a paragraph about family placement. Mavis and I also modelled collaborative writing for the students so that they could watch our negotiations. We planned and wrote dialogically, both of us contributing ideas and wording and negotiating disagreement.

The students wrote three collaborative essays, the last of which was the object of this study. The purpose of the first collaborative writing assignment was to give students experience with coauthoring and with the recording equipment. The first coauthored essay was written about courage, a topic Mavis suggested to extend the class's discussion of courage in *To Kill A Mockingbird*. The purpose of the second coauthored essay was to give the students further experience with writing together and with the recording equipment but also to give them experience with an argumentative topic. To write the second essay the students needed additional preparation.

Because Mavis had never taught argumentative writing to ninth-graders, I spent a week with the class discussing argumentative writing and engaging the students in exercises that focused on aspects of argumentation such as underlying assumptions and counter-arguments. The topic for the second coauthored assignment was whether ninth-grade study hall should be mandatory at their high school. Both this argumentative topic and the one used in the study--whether minors should have access to birth control without parental consent--were topics field-tested with Mavis' ninth-grade class of the previous year in a pilot study. Because we sensed that students had trouble with aspects of argumentation on the second coauthored assignment, Mavis and I

modelled collaborative writing again for the class, this time on a controversial topic.

Data Collection/Procedures

Transcribed Coauthoring Protocols

To discover what factors affected the success of these collaborative writing triads, I relied to a large extent on the transcribed coauthoring protocols of the three targeted triads for the third writing assignment. Each triad's composing sessions were tape-recorded although only the protocols of the third essay of the three targeted groups were to be transcribed and analyzed. The students were audiotaped for all three writing assignments so that they would get used both to coauthoring and to the recording equipment. All groups were recorded because Mavis and I formed our judgments of model, typical, and problem group over the course of the three assignments and because we did not want any group to feel either special or neglected. The students were given the writing topic the day before each of the coauthoring experiences took place so they could think about it and then given three consecutive class periods to complete the work. No instruction was given on how to accomplish that, short of the modelling that Mavis and I did. Roles in group writing were never discussed nor were students told to write the paper together rather than divide up the work.

Questionnaire and Interviews

Data was collected from two other sources. One was a Likert-type evaluative questionnaire filled out by the entire class after their last

collaborative writing experience. This is included as Appendix A. The purpose of the questionnaire was to gain a sense of student perceptions on issues such as whether they felt they had expressed their views in the group, whether they felt the group had disagreed, whether they felt the group got along well, and so forth. After the class filled out the questionnaire I briefly interviewed twenty-two of the twenty-four students in the class; the other two had no free periods available for the interview and commitments after school. The interviews lasted between five and fifteen minutes. I took notes while they spoke and also audiotaped the interviews. To maintain consistency, I had a number of standard questions based, in part, on those used by Daiute (1986) when she interviewed elementary students who had written together; those questions are included as Appendix B. Student perceptions were important because students can give valuable global information about their interactions and their perceptions (Webb, 1982).

Data Analysis

To discover what factors in the interactions of these ninth-grade coauthors affected the success of coauthoring, I relied on both quantitative and qualitative data: analysis of the transcripts of the coauthoring sessions of the three targeted groups for the third writing assignment through coding and through reading for emerging themes, questionnaires, and retrospective interviews. Motivating the study were the hypotheses, based on both related research and the pilot study, that the model group would plan the most and engage in the most cognitive conflict. These aspects of coauthoring could be discerned through coding the coauthoring transcripts. I was also interested

in what social factors would affect coauthoring success which can best be understood through close reading of the transcripts. The data from the questionnaires and interviews allowed me to include student voices and student perceptions.

Transcripts of Coauthoring Sessions

The protocols of the third coauthoring writing sessions of the three target groups were transcribed and analyzed with two types of descriptive protocol analyses that reveal the major features and trends in the discourse of the protocols: descriptions of the themes that emerged and numerical summaries derived from coding the transcripts. To code the coauthoring protocols I used conversational turns as the unit of analysis, the unit used by Daiute and Dalton (1988) in the only study I am aware of that coded collaborative writing discourse. When coauthoring students converse, they do not necessarily speak in sentences or even in clauses. They speak in utterances, the boundaries of which are determined by a change of speakers.

The coding scheme was designed to analyze the interactions that go on in collaborative writing and is included as Appendix C. The goal was that it be inclusive; I included in the scheme any category likely to occur while coauthoring. The coding scheme identifies a) elements of the writing process: representing task, planning, composing text or revising b) procedural suggestions, c) affective elements, and d) miscellaneous categories such as re-reading text, study-related talk and unclear utterances. I coded all conversational turns. To establish inter-rater reliability I divided the transcripts into cohesive episodes and randomly selected 20% for a

colleague in English Education to code; we arrived at 91% agreement.

After analyzing coauthoring transcripts in a pilot study, I realized that I needed something beyond primary codes to show the relationship of ideas. Tag codes became the secondary aspect of the coding scheme. They can be attached to any other code to indicate an utterance that tagged on to what the previous speaker had said. Through these tags one can accommodate the fact that conversational turns often serve more than one rhetorical purpose. There were six tag codes: alternative idea or phrasing (/A), asking for clarification (/C), elaboration (/E), positive evaluation or agreement (/Ev+), negative evaluation or disagreement (/Ev-), and uncertain or indifferent evaluation (/Ev?). The tag codes highlight evaluation or disagreement about ideas or text, but because they are attached to another code, they still indicate the purpose and context of the utterance.

The following conversation taken from the transcript of the typical group shows how a segment of coded transcript looked. Alison and Gia were composing text (CT) for their narrative introduction about "Pam."

Alison:	Pam just like any of the others, wishes birth control could have been available	CT
Gia:	to her	CT/E
Alison:	OK, birth control could	CT
Gia:	could have been made easier	CT/A
Alison:	available to her	CT/A
Gia:	Yeah, OK	CT/Ev+

Alison was speaking text and writing it down. Gia supported that oral composing by elaborating and trying out alternative phrasing. When I designed

the tag codes, I had in mind showing relationships and focusing on cognitive conflict, but as I looked at the coded transcripts, it occurred to me that the tag codes in any protocol actually allowed me to "see" engagement as well as cognitive conflict. In the excerpt above, the students are really engaged with their writing and are negotiating text-in-process.

Because the success of coauthoring groups could well depend on affective elements as well as cognitive ones, I included in the scheme codes for positive and negative affective elements. The **AN** (affective-negative) code indicated students speaking negatively about each other in statements such as the following taken from the problem group's transcript: "Sheri has no point of view," "God, I say we evict her," "Don't worry. She's not going to talk anyway," "She has no ideas."

Coding the discourse offered one way to answer my question. But simply reading the protocols looking for patterns was also useful. It allowed me to be aware of what went on during coauthoring that might not have become clear through coding and to describe what went on between students and for individual students.

Questionnaires and Interviews

After coauthoring was completed, all the students in the class filled out the evaluative questionnaire included as Appendix A. While their thoughts about collaborative writing were not the central focus of this study, I wanted to know how the students felt and what, if anything, they thought they had learned. With their responses I can paint a fuller picture of these students' reactions to coauthoring. To analyze their responses, I tallied the number

who strongly agreed, agreed, etc. for each item and by item listed the written responses that some students had made. I then interviewed twenty-two of the twenty-four students in retrospective interviews to address concerns that could not be answered effectively by agreeing/ disagreeing. For instance, while I could ascertain through the questionnaire that students felt there had been some conflict in the groups, I did not know whether they thought that was productive or not or how it had affected them without interviewing individual students. After the interviews, I analyzed the answers the students gave looking for trends in their responses.

Analyzing the coauthoring protocols and the questionnaire and interview responses helped me to understand what aspects of the coauthoring discourse are most productively stressed and what group behavior patterns lead to successful or unsuccessful interactions.

RESULTS/DISCUSSION

Theoretically collaborative writing has the potential to be an effective means of teaching writing, but we know little about what coauthoring interactions are the most productive. The purpose of this study is to contribute to what we know by answering the question, "What factors in their interactions affect the success of collaborative writing groups in one ninth-grade classroom." Because of the nature of my data, the results and the discussion of them will be presented together. The focus will be on analyzing differences among the model, typical, and problem groups in three areas: dialogic engagement in terms of amount and kind, amount of productive

cognitive conflict, and kinds of social interactions. The point is to articulate the factors that contributed to the success of the model group in this study and those factors that interfered with successful coauthoring for the other two groups. I am not arguing that certain factors *make* one group better than another. Rather I hope to give a clear indication of what is meant by successful coauthoring.

Dialogic Engagement

Amount of Talk and Engagement

Since success in this study was defined, in part, as high level of productive engagement with each other and the task, it was obviously seen as an important aspect of coauthoring. Looking for its presence was a fundamental means of assessing the success of these writing groups. One theoretical basis for that is Bakhtin's (1981) theory of dialogism which stresses dialogue in context and meaning shaped at the point of utterance. Another theoretical basis for using engagement as a measure of success is Vygotsky's (1986) premise that when students are engaged, they are expressing ideas aloud which forces them to externalize their choices. In the process of expression they must elaborate their abbreviated inner speech and thus create and modify their own thinking.

The model group was chosen for its seeming engagement with each other and the task; they talked with each other a lot and were animated. So it is no surprise that this group had more total conversational turns than the typical and problem groups. However, the magnitude of the difference was striking: the model group had 898 conversational turns over the three days of

this writing assignment while the typical group had 485 and the problem group 492. The model group kept their writing talk going without lapsing into silences as the typical and problem groups sometimes did. It was the students' verbal exchanges that generated the content, their language a communicative construction.

Because the model group was chosen for their observable involvement, I assumed that they would have more conversational turns than the other groups. But I also wanted to examine the amount of interaction in their talk, the "internally dialogic quality of [their] discourse" (Bakhtin, 1981, p. 269). The best evidence of that dialogic interaction is shown through the tag codes. In the following excerpt the students in the model group were composing text (CT) for a narrative introduction to the essay on the availability of birth control for minors using "Jill" as their character.

Michael: One night Jill gave in **CT**

Rasheeta: One night Jill finally saw the **CT/A**

Teresa: One night Jill felt the pressure very heavily **CT/A**

Rasheeta: Yeah, say that. One night Jill finally **CT/Ev+**

These three students were working together in an engaged way. The tag codes corroborated decisions about coauthoring engagement made initially through observation alone.

[Insert Table 1 about here]

As Table 1 shows, for the model group 51% of all conversational turns had tag codes, for the typical group 38%, and for the low group 32%. Students who keep a flow of thought going by giving alternatives, elaborating, clarifying, and evaluating are involved with each other's ideas and with the

very processes of coauthoring through which learning occurs. The coauthoring discourse with high percentage of tag codes shows students working to unfold meaning from their interactions. In collaborative writing the dialogue becomes meaningful text when it is generated by an interactive style of composing because "[m]eaning is the *effect of interaction between speaker and listener...*" (Bakhtin/Volosinov, 1986, p.102; italics in original). The tag codes helped to show dialogic engagement as a manifestation of student negotiation.

Nature of Collaborative Writing Talk in Three Groups

Having established that the groups differed in the amount and interactiveness of their discourse, I was interested in the substance of their talk. Some important differences emerged in how talk was distributed among the categories in the coding scheme for the model, typical, and problem groups, particularly the energy devoted to aspects of the writing process. Table 2 shows that the problem group spent more than twice as much time/effort on task representation as did the model group, 19% vs. 8%, and that is true for all the subcategories except one, meta-talk about writing. These results seem counter-intuitive. One would think that the group which talked the most about delineating the task would be perceived as most successful. Cognitively based composition studies (e.g. Bereiter & Scardamalia, 1987; Flower & Hayes, 1981a, 1981b; Flower, Shriver, Carey, Haas & Hayes, 1989), often compare expert and novice writers. While this study is more firmly rooted in social constructionism than in constructivism, that line of research provides a point of reference. Since those studies emphasize the fact that expert writers set

complex goal networks a form of representing task, it seems important to reflect on why that would not be true for the ninth-grade coauthors in this study.

[Insert Table 2 about here]

Certainly part of the reason was that none of these students really problematized any aspect of task representation. On the surface at least, audience was just a matter of choosing a group that would not necessarily agree with the argumentative stance. The typical group shows this under-representation of task playing out.

Joe: Alison, who's our audience? parents? the adult world? who?

Gia: Put the adult world.

Alison: What are you talking about?

Gia: Audience

Alison: Our audience adults? No! Kids.

Gia and Joe [together]: No, cause kids are going to want

Alison: Fine then, put parents.

Their purpose was simple: get that audience to agree. The focus of the talk about requirements and genre was merely for review and to check with each other, not to relate them in any real way to their other goals. Like the typical group, the problem group also did not become fully and interactively engaged with concerns beyond representing the task. That group discussed ideas only in vague and global ways, a consequence of ineffective interactions. While the problem group was going over the assignment or changing the audience, the model group was devoting its time to planning or to actually composing text. The pattern seems to be that the model group tacitly

took issues of task representation into account while they were planning or actually composing. The students in that group did not often talk openly about genre, requirements, purpose, or audience; instead they composed aloud with a seemingly tacit understanding of those issues.

While what we know about expert/novice writers' planning is based on think-aloud protocols (e.g. Bereiter & Scardamalia, 1987; Hayes & Flower, 1980), the data in this study are based on coauthoring talk. That could be one reason that the results are so different. In the model group the students were operating with rhetorical goals in mind; those goals were implicit, embedded in other discourse. One difference between expert writers and these ninth-graders is certainly the experts' attention to representing the task and the level of sophistication at which that is carried out. But another is that expert writers know the important of articulating, to themselves or aloud, the goal networks they set up. These ninth-graders writing together did not know the impact of rhetorical concerns and therefore might not have expressed them.

Coauthoring groups that appeared to be effective kept the task moving along. But that same momentum that produced a flurry of interactive talk could well have worked against the reflective kind of thinking that expert writers evidence about rhetorical concerns such as audience and purpose. Talking about those issues might not seem to move the process ahead from a ninth-grader's perspective.

If we look at how much effort went towards planning for the three groups (See Table 3), we see the model group spending 30% of their time/energy on planning vs. 20% for the typical group and 24% for the problem group. The 24% of codes involving planning for the low group would have been considerably

lower had that group not changed its stance midway through the writing process and had to plan all over again. In planning, the model group *was* doing more. Perhaps that is because planning, as opposed to task representation, seems active. It moves the writing process forward in a way the students in the model group could appreciate.

[Insert Table 3 about here]

The model group not only planned more than the other groups but also spent their planning energies differently. They spent much less time/effort on global content than the other groups. Instead, the model group spent more time/effort on local content. This tendency of the model group to focus on local content again has to do with their forward momentum. They spent little time discussing the topic generally, instead focusing on planning their points as they came to each one. As they began their work together, the model group started thinking about how the whole paper on birth control would play out.

Michael: Do you want to start off with the story [a narrative introduction] that says here is an example of

Teresa: what could happen?

Rasheeta: Yeah, let's do that.

The other groups spent a lot of time generalizing about the topic at the expense of planning the specific points to support their stance. Another difference between the model group and the other two was the amount of effort they devoted to planning structure, both global and local.

Teresa: So are we going to leave this? Are we still going to keep "This led to a touchy debate that"

Rasheeta: Yeah

Teresa: "split the community in half" in *this* paragraph or are we going to move it down to here?

Rasheeta: We're going to leave it there.

Teresa: Okay.

The model group used 8% of their talk to discuss global structure and another 7% on local structure for a total of 15% of all codes. The typical group spent a total of 2% of their energies on structural issues and the problem group 5%. That the most successful coauthoring group expended three times as much effort discussing structural issues as the problem group is important. The most engaged group thought through the shape of the whole paper and the way the pieces would fit. The other groups substituted discussion of ideas for discussion of organization.

The percentage of conversational turns that involved actual composing again reflect the forward momentum of the model group (See Table 4). They devoted twice as much time to actually composing text together as the problem group. A total of 42% of all their conversational turns were composing. The typical group devoted 28% of their conversational turns to composing, and the problem group 21%. The students in the model group were "on task" in a truly meaningful, engaged way.

[Insert Table 4 about here]

Those other groups must have devoted time to something else, then. One way they spent their time was in going over procedural issues, primarily giving each other directives. An important difference between the groups is in the percentage of codes that indicated negative affective statements about each other (See Table 5). These statements could be brief as in calling

someone "retarded" or "stupid." Sometimes a group member was dismissed with statements like, "It's not like you're incapable, but..." or "She has no ideas." The problem group's problems were to a large extent created by these negative statements. They spent 8% of all codes saying negative things about each other, the typical group 4%, and the model group made no disparaging comments about each other. When students in coauthoring groups attack each other personally, they create a hostile environment in which to work. The point, for now, is to show how each group's talk was distributed, but I will return to these negative personal comments as a major factor affecting the success of coauthoring groups.

[Insert Table 5 about here]

Table 6 summarizes the differences among groups for the most salient aspects of coauthoring. The summary profile shows the model group spending little time openly discussing issues of task representation or procedural issues, but instead spending large amounts of time planning and composing--actively moving through the composing process but embedding in their planning and composing discourse both rhetorical concerns and revision. The other two groups spent far more time talking about the task, its requirements, and each other. They had to negotiate what seemed to be tacitly agreed upon by the model group and consequently spent less time planning and composing.

[Insert Table 6 about here]

Cognitive Conflict

Language is a struggle with competing choices at each point of utterance (Bakhtin, 1981). That struggle, usually discussed as cognitive conflict, is a

key element in successful collaboration. That is true in studies of group work in general (e.g. Brown & Palinscar, 1989; Johnson & Johnson, 1979; Kahn, Walter & Johannessen, 1984; Mugny & Doise, 1978) and collaborative writing in particular (Daiute & Dalton, 1988; Dale, 1992). Collaborative writing makes that conflict audible. Productive cognitive conflict seems to be a major factor in the success of these ninth-grade coauthoring groups because it promotes dialogic interaction; it is part of the process of effectively negotiating collaboratively written text. Daiute and Dalton (1988) define cognitive conflict as "the realization that one's perceptions, thoughts, or creations are inconsistent with new information or another person's point of view" (p.251). Collaborative writing is well-suited to promote that conflict since it involves social interactions leading to consensus which support cognitive development. It makes sense that a group which merely agreed to suggested text would be less involved than a group that challenged each others' ideas so that the speaker would have to clarify reasoning and support ideas.

The transcripts of the coauthoring sessions show cognitive conflict being played out. In general, the more productive conflict a group generated, the richer the interactions. Any conversational turn with an /A tag code signalling an alternative idea or phrase or one with an /Ev- code signalling disagreement was counted as cognitive conflict. The excerpt that follows involved composing text (CT). The group was composing the end of their paper by tying it into the ideas of their narrative introduction.

Michael: If birth control was made available to Tim
and Jill their lives would have been much

	different	CT
Rasheeta:	Or say the outcome could have been different.	CT/A
Michael:	The outcome?	CT/C
Rasheeta:	Yeah, because she wouldn't have been pregnant. That *was* the outcome.	CT/A
Teresa:	Or she'd have less of a chance of being pregnant. You have to *use* birth control.	CT/A
Rasheeta:	Outcomes. Yeah, I know.	CT/Ev+
Michael:	Outcome	CT/A
Teresa:	of the situation might be different.	CT/A

By offering alternative ideas, these students forced each other to clarify their points and their understanding.

The summary figures that coding produced show cognitive conflict to be a major factor separating the model from the problem group in this study (See Table 1). While the model group was chosen as "model" because they appeared to be involved in the writing project, until their discourse was coded, there was no way to know if they were engaging in more cognitive conflict than the other groups, but, in fact, they were. For the model group fully 20% of all conversational turns indicated cognitive conflict: an alternative idea or word or a disagreement leading to a new word, phrase, or idea being presented. For the typical group 11% of the codes involved conflict and for the problem group 7%. Specifically, the model group gave an alternative idea or phrasing in 13% of all codes versus 6% for the typical group and 3% for the problem group. Negative evaluation occurred less frequently overall, but still was slightly more present in the discourse of the model group, 7% versus 5% for the typical

group and 4% for the problem group. The differences between these groups who were chosen for level of engagement are interesting and seem to indicate that cognitive conflict is an important element in keeping students engaged and gauging their success in coauthoring.

I was curious about how aware students were of conflict in their groups. In response to the questionnaire item, "Members of my group sometimes disagreed about what to say or how to say it," eighteen students of twenty-four agreed or strongly agreed and only three disagreed or strongly disagreed. That told me that students were aware of disagreement, but until I interviewed them I did not know whether they perceived that as a positive factor or a negative one. So in the interviews I asked them just that. Without exception, the students I questioned, twenty-two in all, felt that it had been good to disagree about some things. In the model group Rasheeta said that through disagreement, "you get a wider outlook on the subject and more ideas." Michael agreed that they would debate issues and "then one person would come up with a compromise idea." Joe, who was in the typical group, said that members of the group disagreed, "but that wasn't bad because we talked about which ideas were better." In the problem group Sheri said that disagreeing about ideas for a paper let her "find out how other people feel about things" and Tom agreed that "you find out their views." These views are typical of those expressed by other members of the class.

Because collaborative writing necessitates consensus, students are likely to disagree or offer alternative ideas and thereby engage in cognitive conflict. That forces them to legitimize their arguments and their language choices to a greater extent than they might writing alone. Bakhtin saw

understanding itself as striving "to match the speaker's word with a *counter word*" (Bakhtin/Volosinov, 1986, p.102; italics in original). It is not surprising that this as well as other studies find a link between cognitive conflict and learning because productive conflict engages students in reflective thinking and elicits substantive engagement.

Social Factors

The success of coauthoring groups in this ninth-grade classroom was largely influenced by social factors. DiPardo and Freedman believe the most important factor in the success of any kind of collaboration is "the degree and type of social interaction..." (1988, p. 142). The mutually supportive roles students play in functional groups makes possible the learning that occurs (Barnes, Britton, & Torbe, 1990). By my own definition a successful group was more engaged dialogically with each others' ideas and words than an unsuccessful one, and that engagement depends on social factors. In collaborative writing words do not just come together. It is people who come into contact through the medium of words; what students write is a product of their social interactions; this is especially true when students must arrive at consensus for an argumentative topic. Only groups in which students respected each other and in which all members' input was valued could function truly effectively.

Social factors negatively affected the success of some coauthoring groups by marginalizing one or more members. When students are marginalized they contribute less and therefore do not gain the advantages of speaking. If one does not speak one's views, inner speech never gains the structure and

elaboration of communicative speech (Vygotsky, 1986). In that way social factors have an effect on cognitive ones. One simply learn less from listening to than from participating in an academic activity. While issues of power and marginalization are implicit in any group work, they are heightened in collaborative writing groups for two reasons. First, students' egos are involved in their writing. It is an expression of who they are and what they know. Second, the collaborative product forces a joint assessment which some students find threatening. Because of that, students have a greater reason to be invested in the outcome and fight for control of the group.

In this study social factors most affected the success of coauthoring groups by marginalizing group members a) when a student was perceived to have weak mechanical skills and b) when a student appropriated the inquisitor "teacher" role. I put "teacher" in quotation marks because the most counter-productive group behavior mimicked a caricature of a judgmental teacher. I do not mean to imply that most English teachers lord over their students. In fact, teachers form groups in part to minimize power relations, to be facilitators rather than givers of knowledge, and to allow students to learn from each other. But students in groups can mimic the worst of our discourse and the worst of our stance toward them producing the worst in possible outcomes.

Problems arose in these coauthoring groups when a student perceived another student judging as a teacher would. When I asked students to write about how they felt about writing, many echoed this sentiment: "I enjoy writing pretty much only when I can be the author and the teacher isn't over my shoulder the whole time telling me what to do." Students seemed to be

least sensitive with each other in the area of mechanics. When one student criticized another about mechanical issues, the result was often negative. In the problem group Mark and Tom worked fairly well together until the last writing day when Mark had an opportunity to judge Tom's mechanical competence. Mark had been leading the group's discussions and had written down the first draft as the group spoke. Tom, however, was writing the draft to turn in since his handwriting was better. As Tom struggled to read Mark's handwriting, Mark became sarcastic, making comments like, "He can't even read." When Tom capitalized incorrectly, he apologized, but Mark still said, "He's dumb!" and added, "Tom, you...you've got the handwriting, but you have no idea of the rules of what to write. You leave spaces, lines between paragraphs. You do capitalization on every third word." Mark's criticism of Tom over mechanical problems affected Tom's whole attitude about coauthoring. In an interview Tom said, "With Mark I made mistakes. I couldn't spell or do punctuation. He'd bother me about that. He'd jump on me." He was not sure he liked collaborative writing because, "I don't like someone checking to make sure my writing is good." While some conflict while coauthoring is productive, this kind of conflict over surface errors is counter-productive.

Perceived problems with mechanics also reduced the effectiveness of the typical group in this study, effectively marginalizing one of its members, Joe. At the beginning of the school year when Joe responded to how he felt about writing, he indicated that he was concerned that he was not "good enough" to be in an "advanced" English class, but he still wanted to try. He wrote, "I'm horabl at speeling and don't know much about puncuations." Since Joe perceived himself to be in a class that might be beyond his capabilities,

he did not vie for authority as Tom did. Alison took Joe to task for his spelling and was less than delicate with his feelings. Joe had taken notes on the group's planning ideas. As Alison read them back, she was upset with Joe's spelling.

Alison: I'm not even correcting your stuff because you can spell when you want to.

Joe: *Don't* correct my stuff.

Alison: How did you get into English ACAMO?

Joe: Because I can write clearer. That's just when I take notes I write like that.

The group seemed to function quite well on the surface, but Joe no longer wrote anything down; he had undoubtedly been marginalized.

From that point on, Alison used Gia to explain what Joe meant and felt free to let Joe know he was not contributing his share. "Come on now, Joe. Think, baby, think! We always thought of everything." When Alison was soliciting ideas, Gia stated the point Joe had already made about birth control, "better safe than sorry." Joe replied sarcastically, "Thanks for saying it for me." When Joe tried to assert that they needed examples, Alison cut him off with an abrupt "What?" Gia replied. "He says that we have to put examples for our reasons." Joe had lost his voice in the group. The next day when Alison was looking at the ideas each had contributed to the planning sheet, she said to Gia, "What's Joe's thing down there?" Gia responded by explaining Joe's idea. Alison now referred to him in the third person; Joe had all but disappeared. Since Joe had good ideas to contribute, his marginalization certainly affected the functioning and success of that group.

In this study collaborative writing was not an effective mode of writing/learning for one group in particular in whose discourse issues of power and marginalization play out. While the problem group did not coauthor effectively, we have much to learn from them. Mark, Sheri, and Tom did not really interact with each other toward the goal of composing text. Without meaningful positive interaction, they could not create real meaning, which Wertsch defines as "voices coming into contact and interanimating each other" (1991, p.73). The primary reason this group functioned so poorly was that Mark insisted on dominating. He insulted other group members, especially Sheri, and he took on the role of inquisitor. Rather than valuing others' ideas and giving their voices equal play, he assumed a borrowed voice, his version of "teacher" voice, in a process that Bakhtin (1981) calls *ventriloquation*: speaking through another voice to achieve a social end. In doing this Mark silenced Sheri and intimidated Tom. His appropriation of "teacher" voice had a negative effect both on other students and on the text. He asked quiz questions as opposed to authentic ones. Students in groups ask what they genuinely need to know. That is what makes group talk more authentic and situated than teacher talk that emphasizes recitation (Nystrand & Gamoran, 1991). Mark perverted the very strength of group discourse by taking on the worst possible model of "teacher" voice.

On the first day of this writing assignment, the group was discussing audience and decided their writing should be addressed to a public official like a mayor or governor. That led Mark to quiz the other two, but Sheri in particular. He stopped the productive discussion of audience to play "teacher" and asked, "Who's our mayor?" Tom gave an incorrect answer which

was ignored because this quiz was aimed at Sheri.

Mark: Wait. Shh. Our mayor. Quiet, Tom. Who's our mayor?

Sheri: I don't know. Mayor [S]. I know who the governor is.

Although Sheri had just given the correct answer, Mark asked again, "Who's the mayor?" and intimidated her into thinking she was wrong. He asked yet again, "Who's the mayor?" to which Sheri now responded "I have no idea." Soon after that exchange Mark started another series of questions directed at Sheri.

Mark: Do you know who the President is?

Sheri: Yes.

Mark: Who's the Speaker of the House?

Sheri: That I don't know.

Mark: Tom Foley, right, Tom?

Tom: Yeah, right.

Mark: Back to the subject.

Asking who the President is was obviously intended to insult Sheri, and even though it was Mark who had steered the talk in an unproductive way, he played "teacher" by saying, "Back to the subject."

Mark took on an authoritative role not only by quizzing the others but also by giving most of the directives. His vision of "teacher" talk, however, was a perversion of classroom management. Tired of Mark seeking their ideas without contributing his own, Sheri finally asked Mark to offer his ideas. Mark replied referring to himself in the third person. " Mark's got his thoughts but Mark wants to hear what other people say first." Mark seemed to be trying on yet another teacher strategy--waiting until the students found answers for themselves. But in the context of collaborative writing, this

strategy was not only high-handed but also counter-productive. That this group did not function successfully or write effectively is not surprising.

In theory, coauthoring groups should work to attain positive ends. Students can learn their own strengths and can open out and model their writing strategies. Writing together can take the full cognitive load from the novice writer and distribute it onto the social surround, a much more natural way to think and write than most school-sponsored writing. However, a student adopting a "teacher" role can disrupt that positive process. When a student adopts a didactic role with other group members, the discussion is more random than most group discourse, each student responding to the "teacher" rather than responding to other group members. When that happens no dialogic interactions can occur: students are not engaged, they cannot work through the writing process, and they cannot challenge each other's thinking. While the examples used to illustrate the effects of social factors have been counter-productive ones, we can learn a great deal from them about what to stress as we establish collaborative writing situations in our classrooms.

IMPLICATIONS/CONCLUSION

This study suggests that collaborative writing has the potential to foster engagement in writing and learning. More specifically, the study helped to clarify the importance of dialogic interaction as it is played out through positive engagement and productive conflict. Such interaction is at the heart of effective coauthoring and is the link between those areas in which the three groups differed: engagement, conflict, and social factors. A

goal of the study was to identify aspects of coauthoring discourse that make it effective in order to help students coauthor effectively. The most effective collaborative writing discourse took place among students writing in a positive social environment who were engaged with each other, the writing process, and the topic. In the kind of discourse that characterizes dialogic interaction, coauthors learn to work with others productively and prompt each other to generate ideas, plan both content and structure effectively, engage in discussions of ideas, and evaluate their choices at the word, structural, and idea levels. The challenge is to take what we know about what factors affect the success of collaborative writing groups and translate that knowledge into ways to help students write together productively.

Without addressing the factors that affect success in coauthoring we can expect a range of coauthoring interactions and a range of success. Some students will learn well from coauthoring and some will not. In an effort to make collaborative writing a positive learning experience for all students, it is important to prepare students to write together successfully.

In this study I was interested in observing and analyzing what students would do without specific coauthoring instruction. But my interest now is in finding ways to promote good coauthoring not only so that I can make recommendations to others, but also so that I can prepare my own students to coauthor effectively. Because the practice of coauthoring is not common in schools, it seems to me we should give students a rationale for writing together: learning to work with others is a worthwhile goal in itself for personal and for professional reasons. We need to be explicit with students about what strategies and behaviors work best because most of their academic

experiences are individual and/or competitive. I will specifically address the implications of this study for student engagement, especially in the writing process; cognitive conflict; and social interactions.

Engagement is critical to effective coauthoring. The model group in this study talked the most and the most interactively. Students need to to know that to be successful they must keep talking to each other and responding to each other. Their coauthoring should be a conversation, one comment tagging onto another. To promote that interaction, teachers can model coauthoring with a student or a colleague. That is one way for the class to watch dialogic engagement play out. Students also need to be aware that what they talk about is essential. The model group in this study had a shared, implicit understanding of the task whereas the problem group spent a great deal of energy on representing the task, albeit on a surface level. To allow students an equal chance for success, I would now discuss the writing task with the class in some depth and in that discussion would try to show the importance of analyzing purpose and audience. Since in this study the model group planned more and differently than the other groups, I would both discuss and model sufficient and effective planning. Specifically, I would suggest/model a focus on local content above global content and a focus on planning structure, both global and local. The final focus of this discussion of effective collaborative writing processes would be on actual oral composing on which the model group spent twice as much time/energy as the problem group. Writing aloud with a partner could show this dialogic composing well.

Both writing and learning require dissonance, and coauthoring places students in a learning environment that can encourage that dissonance. Some

cognitive conflict is an inevitable part of the process of coauthoring; differences of opinion need to be negotiated since consensus is necessary. Conflict, even if it is not resolved, correlates with gains in writing, and when students do learn to reconcile divergent viewpoints, they gain in cognitive development (Daiute & Dalton, 1988). But for the experience to be successful, we must encourage students not to be afraid of productive disagreement. To promote this productive conflict, we must give students topics that will pique their interest and provide the possibility for cognitive conflict, encourage them to challenge each other in non-threatening ways, and model productive conflict for them. In this study, the model group engaged in cognitive conflict to a greater extent than the other groups, three times as much as the problem group. But for productive dissonance to occur, for students to challenge each other's words, ideas, and strategies, they must first trust each other and the collaborative experience. For this reason a positive social environment is necessary. Because language and learning are so socially defined, we must pay attention to the social context.

While there is no doubt that social factors can work against as well as for effective coauthoring, I would not try to solve that problem by assigning roles to high school students. It is important to give them as much control as possible of their learning. The more autonomy students have, the more knowledge they will produce themselves, and the more likely it is that collaborative work will contribute positively to their learning (Nystrand, Gamoran & Heck, 1992). A recent study of learning in groups found that students in groups without assigned roles did better than students who were assigned them (Ross & Raphael, 1990). If the point is to promote interactive

engagement, assigned roles could only get in the way. Instead of roles I would discuss effective group communication with students. Just the process of discussing group discourse would probably alert students to the need to work together productively. More specifically, segments of the protocols used here could be reproduced for the class to prompt discussion of what behaviors seem to promote discussion and which shut it down.

Students need to understand that the interdependent relationships established in coauthoring groups play a large role in how much they learn. One way to achieve that is to focus explicitly on metacognitive processes. I would ask students to reflect on their own behaviors in the group after they had coauthored once. This could be accomplished through discussion and journal writing. If the resources were available, a group or two could be videotaped and the tape played back and discussed. If students do not understand their own group behaviors, they will not be as effective as they could be as coauthors. Because social forces are fundamental to the success of collaborative writing, I would be honest with students about the potentially negative consequences of social factors. To ignore power issues is quite possibly to encourage them. At the very least, a class which will be writing in groups should discuss effective and ineffective ways to proceed. Time spent developing students' collaborative skills is probably time well invested.

One way to work against counter-productive social forces is to explain to students the negative effects of one student taking on a "teacher" role as Mark did in this study, to make sure we give our students more productive conceptions of teaching, and to model alternative ways of interacting.

Students must be convinced that they are not teacher surrogates and that genuine collaboration is far more useful. Unfortunately, students have few collaborative models of interaction (Spear, 1988). One way to counteract marginalization and status hierarchies from interfering with the learning processes in which we are interested is to discuss with students the ideas of multiple abilities/ intelligences (Cohen, 1986; Gardner, 1983; Tammivaara, 1982). If students understand that for the work to be done no one person is good at all the abilities needed and everyone can accomplish at least one, it is possible to create a positive environment. We must find ways to make those ideas real to students, even by explicitly teaching group interdependence (Cohen, 1986). For students to learn they must believe themselves capable of success. Perhaps that is where we need to start.

Teaching English is about teaching effective communication. Since most students come to us with spoken English as their primary means of communicating, helping them learn to write means helping them to connect oral with written expression. Learning to write, like learning to speak, is "fundamentally a social activity, embedded in interactions..." (Sperling, 1990, p.281). This study showed successful collaborative writing to entail substantial engagement, active planning and composing, productive cognitive conflict, and positive treatment of all group members. Successful coauthors allow the voices in the group to enhance their writing and their learning. By understanding better the processes of one successful collaborative writing situation, we can move beyond the theoretical reasons for its potential toward is use in practice as an effective pedagogy for the teaching of writing.

TABLE 1
PERCENT OF CONVERSATIONAL TURNS
TAG CODES AND COGNITIVE CONFLICT
FOR THREE GROUPS

	MODEL	TYPICAL	PROBLEM
TOTAL	**51**	**38**	**32**
Alternative ideas/ phrasing (/A)	13	6	3
Asking for clarification (/C)	12	13	9
Elaboration (/E)	8	4	5
Evaluation/ Positive or agreement (/Ev-)	8	9	8
Evaluation/Negative or disagreement (/Ev-)	7	5	4
Evaluation/Uncertain or indifferent (/Ev?)	3	1	1
Cognitive Conflict (/A) or (/Ev-)	**20**	**11**	**7**

TABLE 2
PERCENT OF CONVERSATIONAL TURNS
DEVOTED TO TASK REPRESENTATION
FOR THREE GROUPS

	MODEL	TYPICAL	PROBLEM
TOTAL	**8**	**15**	**19**
Difficulty (STD)	0	0	1
Audience (STA)	2	2	7
Purpose/Stance(STP)	1	0	4
Requirements/Content (STR)	2	5	4
Genre (STG)	1	4	3
Meta/Writing (STW)	2	2	0

TABLE 3
PERCENT OF CONVERSATIONAL TURNS
DEVOTED TO PLANNING
FOR THREE GROUPS

	MODEL	TYPICAL	PROBLEM
TOTAL	**30**	**20**	**24**
Content/Global (SPCG)	2	7	11
Content/Local (SPCL)	12	7	6
Structure/Global (SPSG)	8	0	2
Structure/Local (SPSL)	7	2	3
Requesting Ideas (SPR)	1	4	3

TABLE 4
PERCENT OF CONVERSATIONAL TURNS
DEVOTED TO COMPOSING
FOR THREE GROUPS

	MODEL	TYPICAL	PROBLEM
TOTAL	**46**	**35**	**25**
Composing Text (CT)	42	28	21
Mechanics(CM)	2	7	3
Requesting Text Content (CR)	2	0	1

TABLE 5
PERCENT OF CONVERSATIONAL TURNS
DEVOTED TO PROCEDURAL AND AFFECTIVE CONCERNS
FOR THREE GROUPS

	MODEL	TYPICAL	PROBLEM
TOTAL PROCEDURAL	**9**	**15**	**13**
Group Functioning/ Directives (PG)	8	11	12
TOTAL AFFECTIVE	2	7	11
Negative (AN)	**0**	4	8

TABLE 6
SUMMARY- MOST SALIENT CHARACTERISTICS
PERCENT OF CONVERSATIONAL TURNS
FOR THREE GROUPS

	MODEL	TYPICAL	PROBLEM
Tag Codes	51	38	32
Cognitive Conflict	20	11	7
Negative Affective	0	4	8
Task Representation	8	15	19
Planning	30	20	24
Composing	46	35	25

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APPENDIX A STUDENT QUESTIONNAIRE

	Strongly Disagree				Strongly Agree
1. I'd rather write with a group than alone.	1	2	3	4	5
Comment: [space for comments left for each item]					
2. I got the chance to express my views in the group.	1	2	3	4	5
3. My ideas got into the papers we wrote.	1	2	3	4	5
4. I got along with everybody in my group.	1	2	3	4	5
5. People in my group listened to each other's ideas.	1	2	3	4	5
6. Writing together we spent more time planning papers than I do when I write alone.	1	2	3	4	5
7. Writing together we spent more time revising papers than I do when I write alone.	1	2	3	4	5

8. Writing together we spent more time checking spelling, punctuation, and grammar than I do when I write alone.	1	2	3	4	5
9. Every member of the group put about the same amount of effort into writing into writing the papers.	1	2	3	4	5
10. We wrote all parts of the paper together rather than dividing up the work.	1	2	3	4	5
11. Members of my group sometimes disagreed about what to say or how to say it.	1	2	3	4	5
12. One person in the group tended to be the leader.	1	2	3	4	5
13. I learned new ways to brainstorm/plan writing from my group.	1	2	3	4	5
14. I learned new ways to organize a paper from my group.	1	2	3	4	5
15. I would like to write collaboratively again.	1	2	3	4	5

APPENDIX B
INTERVIEW QUESTIONS

1. How do you like writing with a group? Would you rather write in a group or alone?

2. What were you good at in collaborative writing? weak at?

3. What's the biggest difference between writing alone and writing with a group?

4. Did you find group writing difficult? interesting?

5. Can you think of anything about writing you've learned from others in the group?
   - -ways to get started? -ways to get ideas?
   - -ways to get the writing going?
   - -ways to organize?
   - -mechanics?

6. Do you think others in the group learned something from you? What?

7. Was there a consistent leader in your group? Did members of the group fall into roles?

8. Did you feel relied on or used in your group?

9. Did you talk much about purpose, audience or organization?

10. Did you talk about writing in the group? How you go about it? What it's like?

11. What affected how well the group went? how good the paper was?

12. Do you think ninth grade teachers should have students write collaboratively? Why or why not?

APPENDIX C CODING SCHEME

COMPOSING

- **CR** requesting text content
- **CT** literal suggesting of text
- **CM** mechanics

STRATEGIC THINKING ABOUT PROCESS

TASK REPRESENTATION

- **STD** difficulty
- **STA** audience
- **STP** purpose/stance
- **STR** requirements/content
- **STG** genre
- **STW** meta-writing talk

PLANNING

- **SPCG** content-global
- **SPCL** content-local
- **SPSG** structural-global
- **SPSL** structural-local
- **SPR** requesting ideas

REVISING

- **SRCG** content-global
- **SRCL** content-local
- **SRSG** structural-global
- **SRSL** structural-local
- **SRR** requesting ideas

PROCEDURAL SUGGESTIONS

- **PT** time management
- **PS** status of the text
- **PG** group functioning/directives to group

AFFECTIVE ELEMENTS

- **AA** personal associations
- **AP** positive
- **AN** negative

MISCELLANEOUS

- **RR** rereading text
- **OT** off task
- **U** unclear
- **INC** incomplete
- **SRT** study-related talk
- **O** other

TAG CODES USED THROUGHOUT

- **/A** alternative idea/phrasing
- **/C** asking for clarification
- **/E** elaboration
- **/EV** evaluation
  - \+ positive/agreement,
  - \- negative/disagreement
  - ? uncertain/indifferent